

Work Order ID 136814

September 09, 2015 3:02:32 PM

136814

Page 1

Item ID: D3884-2

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Saddle, Inboard RH

Start Date: 9/9/2015 Start Qty: 600 *6*

Cust Item ID:

Required Date: 9/23/2015 Req'd Qty: 600 *6*

Customer:

Reference:

Approvals: Process Plan: SA Date: 0150909 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3884	C

100

0.00

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.10

HAAS CNC vertical machine #1

Program Batch No. 136814

Double check by: SA

1-Machine Step No 1 per Folio FA819 and inspect per attached Dimension Sheets

2-Machine Step No 2 per Folio FA819 and inspect per attached Dimension Sheets

3-Machine Step No 3 per Folio FA819 and inspect per Dimension Sheets

16 0 9-89 DAS 20 15-10-16

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

16 0 9-89 DAS 20 15-10-16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
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Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

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16 of 15.10.19 Doc

DQA: _____ Date: _____



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Work Order update only ☐

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Work Order ID 136814

136814

Page 3

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Item ID: D3884-2 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle, Inboard RH
 Start Date: 9/9/2015 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 9/23/2015 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
140	<i>M 132729.</i>					<i>16</i>	<i>0</i>	<i>15-10-19</i>	<i>DAS 34 9-89</i>
Powdercoat	Memo	0.00							
Powder Coating	***MASK INSIDE SURFACES OF SADDLE PRIOR TO APPLICATION OF POWDER COAT AS PER INDICATED ON DWG (SEE NOTE 2)*** ***DO NOT MASK INSIDE FLANGE SURFACE*** START TIME: <i>2:35</i> OVEN TEMPERATURE: <i>320°</i> FINISH TIME: <i>3:55</i>								
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.00							
Quality Control									

16
38
 9-89
 OCT 7 11 15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Description Work Order Deviation		Disposition		Completed By	
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160	Identify as per dwg & Stock Location: <u>st 404</u>	0.00				<u>16</u>	<u>27</u>		
160							27		
Packaging	Memo	0.00					9-89		
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.01							
Quality Control									

OCT 20 2015
15/10/20 JD

SA 20151020

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																				
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																				
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																				
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																				
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																				
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																				
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																				
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																				
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																				
		OTHER : ☐																																																																					

Picklist Print

September 09, 2015 3:02:38 PM

Page 1

Work Order ID: 136814

136814

Parent Item: D3884-2

D3884-2

Parent Item Name: Saddle, Inboard RH

Start Date: 9/9/2015

Required Date: 9/23/2015

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP RevA: New issue DD verified by:EC
15.05.20 remove inside powdercoat DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-017 *D6101-017* Saddle Billet		Manufactured	No				Each	22.0000	**	6			DAS 20 9-89

16

15-10-13

Location

Loc Qty

Loc Code

MAT044

22

129915

1

133963

11

135525

10

136924

6

10

DQA: _____ Date: _____

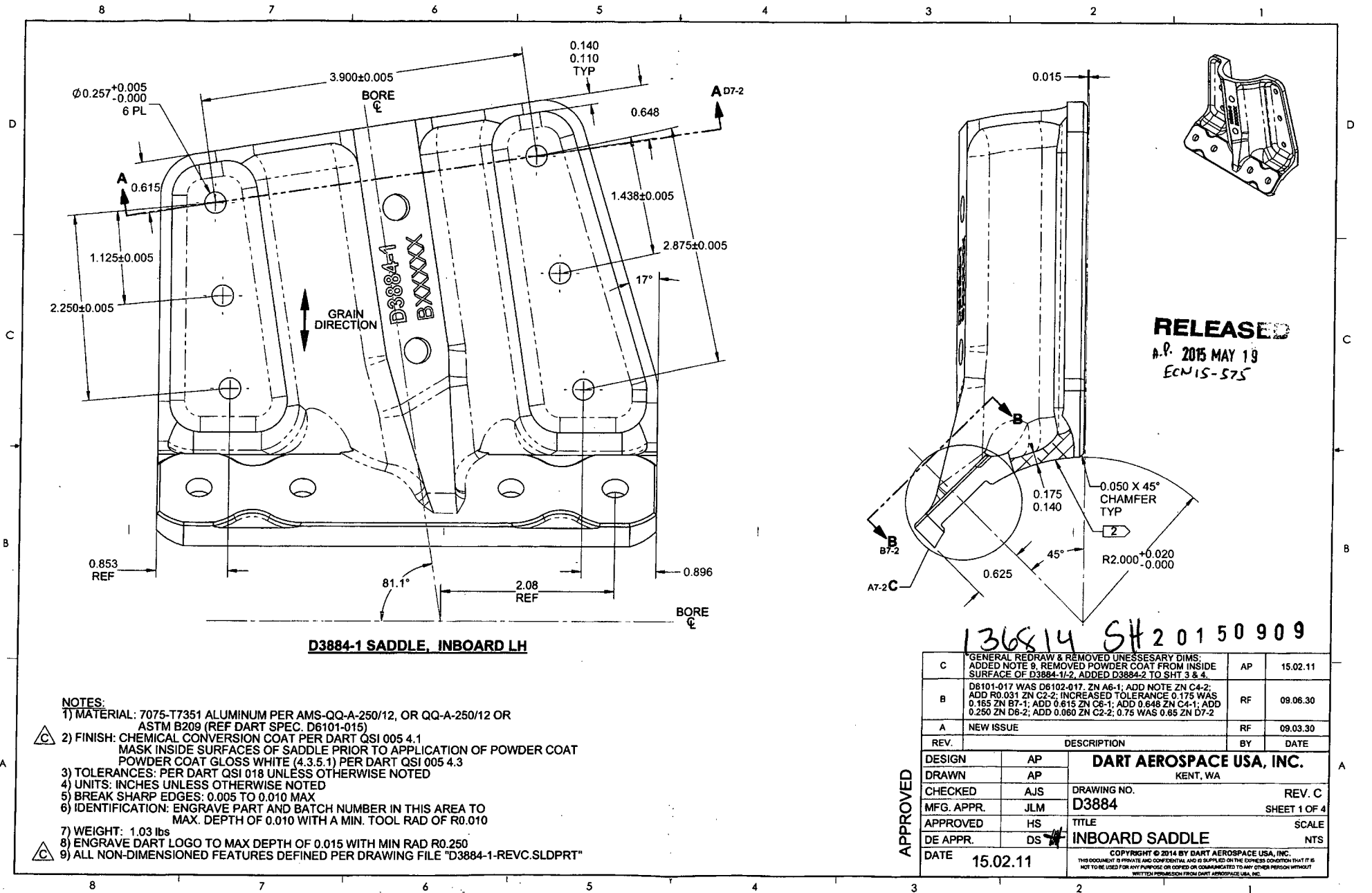


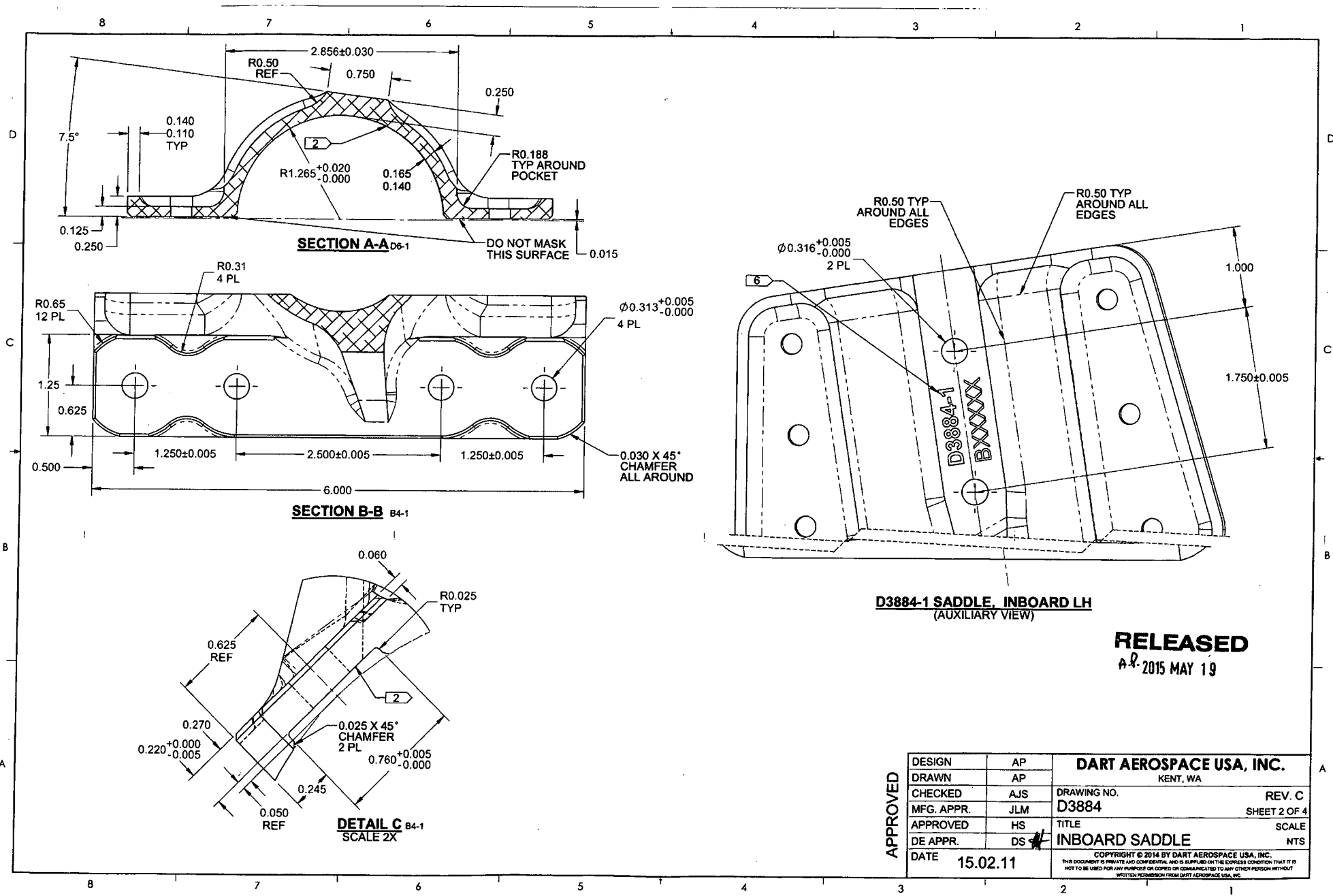
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								





D3884-1 SADDLE, INBOARD LH
(AUXILIARY VIEW)

RELEASED
2015 MAY 19

APPROVED	DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
	DRAWN	AP		
	CHECKED	AJS	DRAWING NO.	REV. C
	MFG. APPR.	JLM	D3884	SHEET 2 OF 4
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	INBOARD SADDLE	NTS
	DATE	15.02.11	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

8 7 6 5 4 3 2 1

D

C

B

A

D

C

B

A

0.015

0.050 X 45°
CHAMFER
2 PL

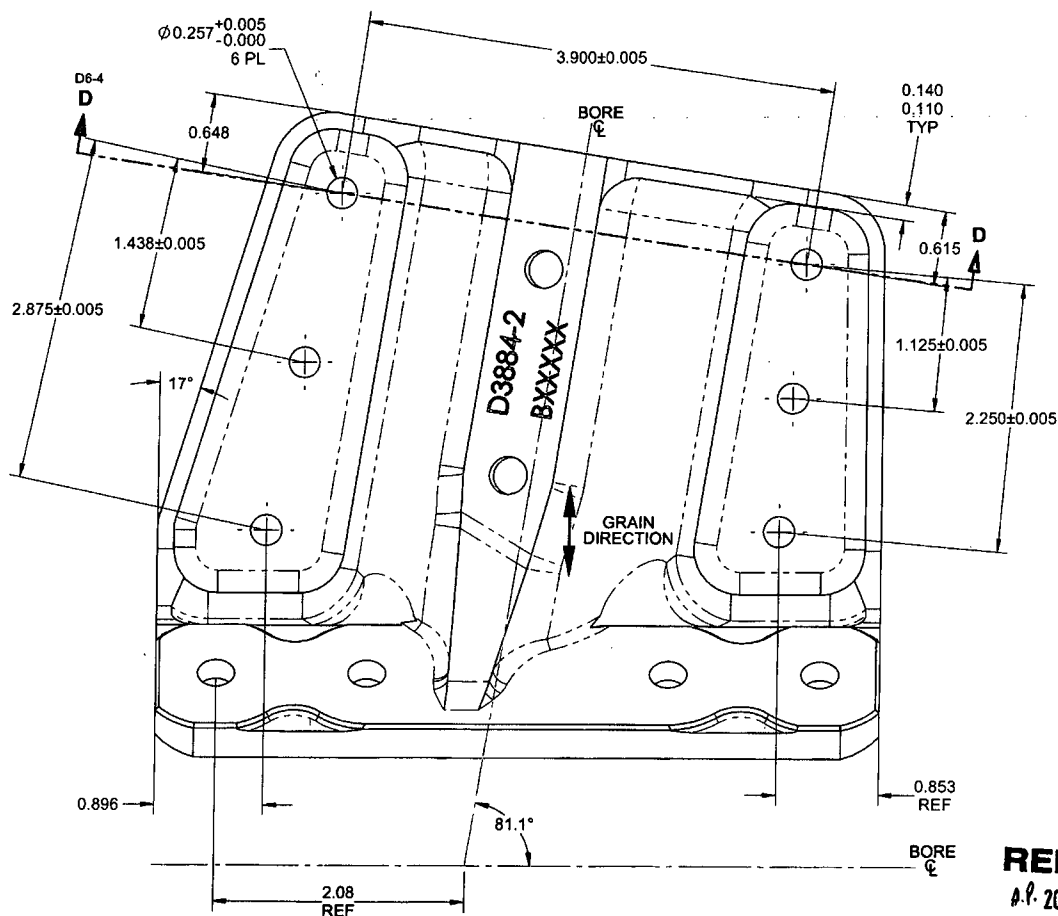
0.175
0.140

R2.000^{+0.020}
-0.000

45°

E A7-4

F B8-4



RELEASE
A.P. 2015 MAY 19

D3884-2 SADDLE, INBOARD RH

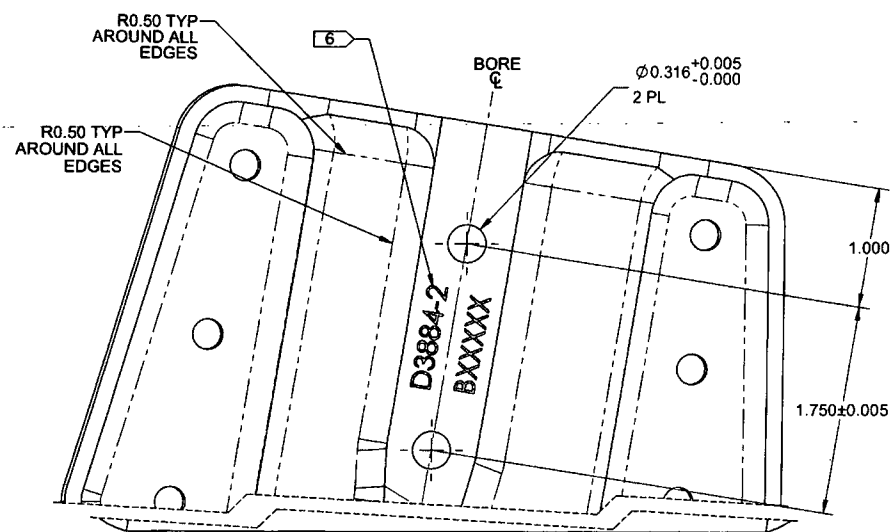
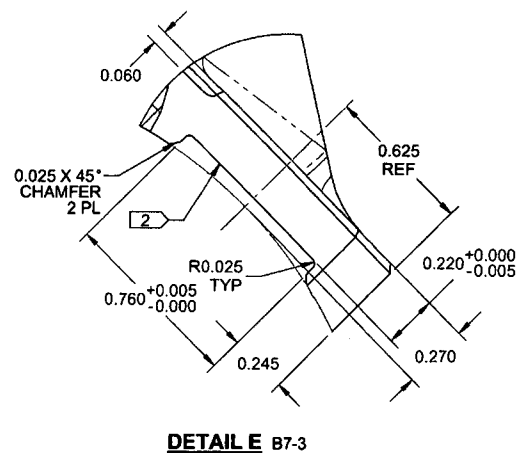
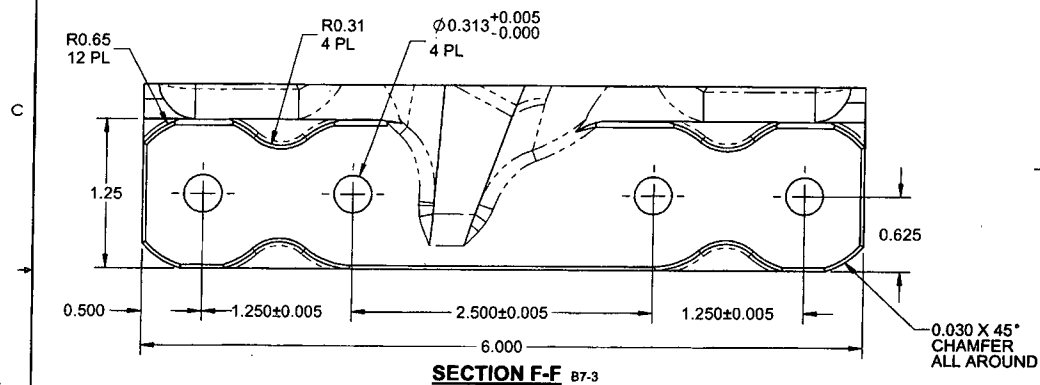
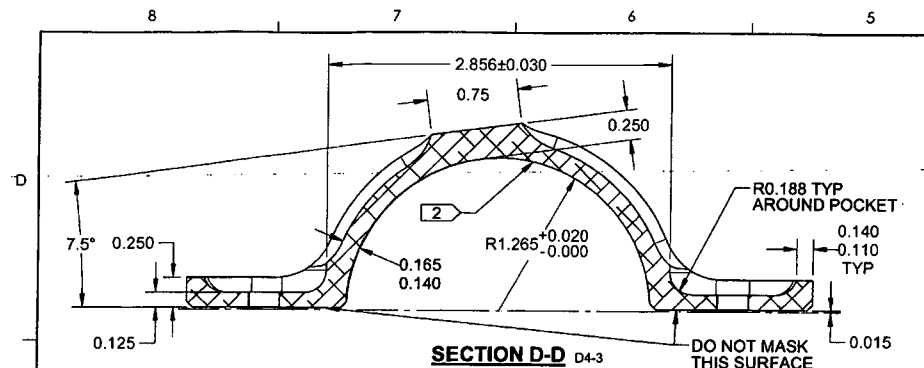
NOTES:

- 1) MATERIAL: 7075-T7351 ALUMINUM PER AMS-QQ-A-250/12, OR QQ-A-250/12 OR ASTM B209 (REF DART SPEC. D6101-015)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
MASK INSIDE SURFACES OF SADDLE PRIOR TO APPLICATION OF POWDER COAT
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO
MAX. DEPTH OF 0.010 WITH A MIN. TOOL RAD OF R0.010
- 7) WEIGHT: 1.03 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD R0.250
- 9) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D3884-2-REVC.SLDPRT"

APPROVED

DESIGN	AP	DART AEROSPACE USA, INC.	
DRAWN	AP	KENT, WA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	JLM	D3884	SHEET 3 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	INBOARD SADDLE	NTS
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8 7 6 5 4 3 2 1



RELEASED
A.P. 2015 MAY 19

APPROVED	DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
	DRAWN	AP		
	CHECKED	AJS	DRAWING NO.	REV. C
	MFG. APPR.	JLM	D3884	SHEET 4 OF 4
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	INBOARD SADDLE	NTS
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DART AEROSPACE LTD		Work Order:	136814
Description: Saddle, Inboard, RH		Part Number:	D3884-2
Inspection Dwg: D3884 Rev. B		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		.645	.646	.647	.647		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.258	.258	.258	.258		
F	0.605	0.625		.608	.609	.609	.609		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.0023	2.003	2.002	2.003		
J	0.140	0.175		.150	.142	.142	.144		
K	1.265	1.285		1.2673	1.268	1.267	1.268		
L	0.115	0.135		.125	.124	.124	.124		
M	0.240	0.260		.251	.249	.249	.249		
N	0.110	0.140		.140	.140	.140	.140		
O	0.240	0.260		.253	.249	.250	.251		
P	2.826	2.886		2.856	2.856	2.856	2.856		
Q	0.178	0.198		.188	.188	.188	.188		
R	0.140	0.165		.149	.140	.140	.140		
S	0.720	0.780		.760	.760	.760	.760		
T	1.220	1.280		1.252	1.252	1.252	1.252		
U	1.245	1.255		1.250	1.250	1.250	1.250		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	2.495	2.505		2.500	2.500	2.500	2.500		
X	0.490	0.510		.497	.499	.500	.498		
Y	0.020	0.040		.035	.035	.035	.035		
Z	0.313	0.318		.314	.314	.314	.314		
AA	0.760	0.765		.760	.760	.760	.760		
AB	0.215	0.220		.216	.216	.215	.216		
AC	0.316	0.321		.316	.316	.316	.316		
AD	1.745	1.755		1.750	1.750	1.750	1.750		
AE	0.990	1.010		1.002	1.001	1.003	1.005		
AF									
Accept/Reject									

Measured by:	20 9-89	Audited by:	14 9-89
Date:	15-10-14	Date:	15/10/19

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	

DART AEROSPACE LTD		Work Order:	136814
Description: Saddle, Inboard, RH		Part Number:	D3884-2
Inspection Dwg: D3884 Rev. B		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	5 #	6 #	7 #	8 #		
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		.647	.647	.648	.647		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.258	.258	.258	.258		
F	0.605	0.625		.609	.609	.610	.611		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.001	2.0025	2.0027	2.0015		
J	0.140	0.175		.144	.143	.143	.144		
K	1.265	1.285		1.266	1.2675	1.2677	1.2665		
L	0.115	0.135		.124	.123	.1235	.124		
M	0.240	0.260		.249	.248	.2485	.249		
N	0.110	0.140		.140	.140	.140	.140		
O	0.240	0.260		.252	.251	.250	.250		
P	2.826	2.886		2.856	2.856	2.856	2.856		
Q	0.178	0.198		.188	.188	.188	.188		
R	0.140	0.165		.143	.142	.144	.144		
S	0.720	0.780		.760	.760	.760	.760		
T	1.220	1.280		1.252	1.252	1.252	1.252		
U	1.245	1.255		1.250	1.250	1.250	1.250		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	2.495	2.505		2.500	2.500	2.500	2.500		
X	0.490	0.510		.498	.497	.497	.497		
Y	0.020	0.040		.035	.035	.035	.035		
Z	0.313	0.318		.314	.314	.314	.314		
AA	0.760	0.765		.760	.760	.760	.760		
AB	0.215	0.220		.218	.217	.218	.218		
AC	0.316	0.321		.316	.316	.316	.316		
AD	1.745	1.755		1.750	1.750	1.750	1.750		
AE	0.990	1.010		.997	.996	.996	.998		
AF									
Accept/Reject				DAS					

Measured by:	20 9-89	Audited by:	14 9-89
Date:	15-10-15	Date:	15/10/19

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	

DART AEROSPACE LTD		Work Order:	136814
Description: Saddle, Inboard, RH		Part Number:	D3884-2
Inspection Dwg: D3884	Rev. B	Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	9	10	11	12	By	Date
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		.647	.649	.648	.648		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.258	.258	.258	.258		
F	0.605	0.625		.609	.611	.611	.610		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.004	2.002	2.003	2.003		
J	0.140	0.175		.145	.147	.143	.145		
K	1.265	1.285		1.269	1.267	1.268	1.268		
L	0.115	0.135		.124	.124	.123	.1235		
M	0.240	0.260		.249	.249	.2485	.2485		
N	0.110	0.140		.140	.140	.140	.140		
O	0.240	0.260		.248	.250	.249	.252		
P	2.826	2.886		2.856	2.856	2.856	2.856		
Q	0.178	0.198		.188	.188	.188	.188		
R	0.140	0.165		.146	.149	.147	.147		
S	0.720	0.780		.760	.760	.760	.760		
T	1.220	1.280		1.252	1.252	1.252	1.252		
U	1.245	1.255		1.250	1.250	1.250	1.250		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	2.495	2.505		2.500	2.500	2.500	2.500		
X	0.490	0.510		.497	.492	.493	.498		
Y	0.020	0.040		.035	.035	.035	.035		
Z	0.313	0.318		.314	.314	.314	.314		
AA	0.760	0.765		.760	.760	.760	.760		
AB	0.215	0.220		.2175	.217	.2175	.217		
AC	0.316	0.321		.316	.316	.316	.316		
AD	1.745	1.755		1.750	1.750	1.750	1.750		
AE	0.990	1.010		.997	.994	.998	.998		
AF									

Accept/Reject ^{DAS}

Measured by:	20 9.89
Date:	15-10-15

Audited by:	^{DAS} 14
Date:	15/10/15

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	

DART AEROSPACE LTD		Work Order:	136814
Description: Saddle, Inboard, RH		Part Number:	D3884-2
Inspection Dwg: D3884 Rev. B		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	13 #	14 #	15 #	16 #	By	Date
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		.649	.649	.649	.649		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.258	.258	.258	.258		
F	0.605	0.625		.612	.612	.609	.609		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.0027	2.003	2.003	2.005		
J	0.140	0.175		.144	.144	.143	.143		
K	1.265	1.285		1.2677	1.268	1.268	1.270		
L	0.115	0.135		.1235	.124	.123	.125		
M	0.240	0.260		.2485	.249	.248	.250		
N	0.110	0.140		.140	.140	.140	.140		
O	0.240	0.260		.250	.250	.251	.248		
P	2.826	2.886		2.856	2.856	2.856	2.856		
Q	0.178	0.198		.188	.188	.188	.188		
R	0.140	0.165		.148	.148	.148	.148		
S	0.720	0.780		.760	.760	.760	.760		
T	1.220	1.280		1.252	1.252	1.252	1.252		
U	1.245	1.255		1.250	1.250	1.250	1.250		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	2.495	2.505		2.500	2.500	2.500	2.500		
X	0.490	0.510		.499	.499	.499	.499		
Y	0.020	0.040		.035	.035	.035	.035		
Z	0.313	0.318		.314	.314	.314	.314		
AA	0.760	0.765		.760	.760	.760	.760		
AB	0.215	0.220		.217	.217	.2175	.216		
AC	0.316	0.321		.316	.316	.316	.316		
AD	1.745	1.755		1.750	1.750	1.750	1.750		
AE	0.990	1.010		1.000	.998	.998	.998		
AF									
Accept/Reject				DAS					
				14					

Measured by:	30
Date:	15-10-16

Audited by:	9-89
Date:	15/10/19

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	